

Title (en)  
REFRIGERANT-CONTAINING COMPOSITION, AND REFRIGERATING METHOD, REFRIGERATING DEVICE OPERATING METHOD, AND REFRIGERATING DEVICE USING SAID COMPOSITION

Title (de)  
KÄLTEMITTEL ENTHALTENDE ZUSAMMENSETZUNG UND KÜHLVERFAHREN, BETRIEBSVERFAHREN FÜR KÜHLGERÄT UND KÜHLVORRICHTUNG MIT DIESER ZUSAMMENSETZUNG

Title (fr)  
COMPOSITION CONTENANT UN FLUIDE FRIGORIGÈNE, ET PROCÉDÉ DE RÉFRIGÉRATION, PROCÉDÉ DE FONCTIONNEMENT DE DISPOSITIF DE RÉFRIGÉRATION ET DISPOSITIF DE RÉFRIGÉRATION UTILISANT LADITE COMPOSITION

Publication  
**EP 3922922 A4 20221221 (EN)**

Application  
**EP 20752378 A 20200203**

Priority  
• JP 2019018617 A 20190205  
• JP 2020003943 W 20200203

Abstract (en)  
[origin: EP3922922A1] The present disclosure is to provide a composition comprising a refrigerant that has the characteristics of having a sufficiently low GWP, and having a coefficient of performance (COP) and a refrigerating capacity equivalent to or higher than those of R404A. The present disclosure provides a composition comprising a refrigerant, the refrigerant comprising trans-1,2-difluoroethylene (HFO-1132(E)), 1,1,2-trifluoroethylene (HFO-1123), and 2,3,3,3-tetrafluoropropene (HFO-1234yf), wherein the total concentration of the three components is 99.5 mass % or more, based on the entire refrigerant, and the three components have a mass ratio that falls within a region surrounded by a figure passing through the following 5 points in a ternary composition diagram whose three vertices represent the three components: point A (HFO-1132(E)/HFO-1123/HFO-1234yf = 42.5/1.0/56.5 mass%), point B (HFO-1132(E)/HFO-1123/HFO-1234yf = 27.1/1.0/71.9 mass%), point C (HFO-1132(E)/HFO-1123/HFO-1234yf = 1.0/30.4/68.6 mass%), point D (HFO-1132(E)/HFO-1123/HFO-1234yf = 1.0/57.0/42.0 mass%), and point E (HFO-1132(E)/HFO-1123/HFO-1234yf = 42.5/24.1/33.4 mass%).

IPC 8 full level  
**C09K 5/04** (2006.01); **B60H 1/32** (2006.01); **C10M 171/00** (2006.01); **F25B 1/00** (2006.01)

CPC (source: EP US)  
**C09K 5/045** (2013.01 - EP US); **C10M 171/008** (2013.01 - EP US); **C09K 2205/126** (2013.01 - EP US); **C09K 2205/22** (2013.01 - EP); **C09K 2205/40** (2013.01 - EP US); **C10M 2207/2835** (2013.01 - EP); **C10M 2209/043** (2013.01 - EP); **C10M 2209/1033** (2013.01 - EP); **C10N 2020/101** (2020.05 - EP US); **C10N 2040/30** (2013.01 - EP)

Citation (search report)  
[A] US 2016369145 A1 20161222 - FUKUSHIMA MASATO [JP], et al

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DOCDB simple family (publication)  
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**EP 20752378 A 20200203**; CN 202080012284 A 20200203; JP 2020003943 W 20200203; JP 2020015984 A 20200203; US 202117387368 A 20210728